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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/849,749

05/19/2004

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EXAMINER

SAVLA, ARPAN P

ART UNIT

PAPER NUMBER

2185

MAIL DATE

DELIVERY MODE

11/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/849,749

Applicant(s)

CLASEMAN, GEORGE

Examiner

Arpan P. Savla

Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 25-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 25-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This Office action is in response to Applicant's communication filed August 6, 2007 in response to the Office action dated July 2, 2006. Claims 1, 5, 14, 19, 20, and 22 have been amended. Claims 23 and 24 have been canceled. New claims 26-29 have been added. Claims 1-22 and 25-29 are pending in this application.

OBJECTIONS

Drawings

1. The drawings are objected to because the newly added Control Engine 105 is hand drawn and therefore informal. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are

Art Unit: 2185

not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. In view of Applicant's remarks, the objection to the specification is withdrawn.

Claims

3. In view of Applicant's amendment, the objections to **claims 14, 19, and 22** are withdrawn.

REJECTIONS NOT BASED ON PRIOR ART

Claim Rejections - 35 USC § 112

4. In view of Applicant's remarks, the 112, first paragraph rejections to **claims 5 and 20** are withdrawn.
5. In view of Applicant's remarks, the 112, second paragraph rejection to **claim 20** is withdrawn.

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-4, 6-12, 15-18, 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Don Pannell, "Clause 22 Access to Clause 45 Registers" (hereinafter "Pannell").**

8. **As per claim 1**, Pannell discloses a method for expanding addressing capability of a plurality of registers (pg. 14, the "Addr Reg", the "C45 RW Control", and the "65,536 Registers") and connected to an interface comprising:

designating at least two of the plurality of registers as a block of registers (pg. 14, the "65,536 Registers"); *It should be noted that the 65,536 registers comprise at least one "block of registers"*

providing a plurality of such blocks of registers (pg. 14, the "65,536 Registers");

designating a first register within the plurality of registers that is separate from the blocks of registers for selectively characterizing at least one of such blocks of registers as an indicated block of registers (pg. 14, the "Addr Reg"; pg. 10, the "Management Frame Fields - Clause 45" table); *It should be noted that the "Addr Reg" is analogous to the "first register." It should also be noted that the Addr Reg is used to address (i.e. characterize) the block of 65,536 Registers.*

and designating a second register within the plurality of registers that is separate from the blocks of registers for specifying at least one operation for the indicated block of registers (pg. 14, the "C45 RW Control"; pg. 10, the "Management Frame Fields - Clause 45" table). *It should be noted that the "C45 RW Control" is analogous to the*

“second register.” It should also be noted that the “opcode” stored in C45 R/W Control specifies at least one operation for the block of 65,536 Registers.

9. **As per claim 2**, Pannell discloses the first register includes a block selector for selectively characterizing at least one of such blocks of registers as an indicated block of registers (pg. 14, the “Device Select” signal). *It should be noted that the Device Select signal sent to the C45 R/W Control and then eventually to the Addr Reg effectively acts as a “block selector” for the Addr Reg.*

10. **As per claim 3**, Pannell discloses the second register includes an operational code (pg. 14, the “the Opcode” being sent to the C45 R/W Control). *It should be noted that “Opcode” is analogous to “operational code.”*

11. **As per claim 4**, Pannell discloses the second register includes a port indicator (pg. 14, the “Port Select” signal). *It should be noted that the Port Select signal sent to the MUX, then AND gate, and eventually to the C45 R/W Control effectively acts as a “port indicator” for the C45 R/W Control.*

12. **As per claim 6**, Pannell discloses said location and control registers comprise registers compatible with IEEE standard 802.3 clause 22 (pg. 25).

13. **As per claim 7**, Pannell discloses a system for expanding the addressing capability of a plurality of registers (pg. 14, the “Addr Reg”, the “C45 R/W Control”, and the “65,536 Registers”), the system comprising:

a plurality of blocks of registers, each block of registers having at least two registers (pg. 14, the “65,536 Registers”);

a location register separate from the plurality of blocks of registers for selectively characterizing at least one of the blocks of registers as a specified block of registers (pg. 14, the "Addr Reg"; pg. 10, the "Management Frame Fields - Clause 45" table); *It should be noted that the "Addr Reg" is analogous to the "location register."*

a control register separate from the plurality of blocks of registers for selecting at least one operational code for the specified block of registers and specifying at least one port number for the specified block of registers (pg. 14, the "C45 R/W Control"; pg. 10, the "Management Frame Fields - Clause 45" table); *It should be noted that the "C45 R/W Control" is analogous to the "control register."*

and a control engine operable to access the operational code for the specified block of registers and act on the specified block of registers at each of the specified port numbers in accordance with the operational code (pg. 14, the "Existing Clause 22 STA"). *It should be noted that the "Existing Clause 22 STA" is analogous to the "control engine." It should be noted that the STA (station management) accesses and controls the PHY (physical layer interface). Thus, it is inherently required the STA access and control the block of 65,536 Registers within the PHY in accordance with the Opcode signal.*

14. **As per claim 8**, Pannell discloses the operational code specifies an operation to be performed on the specified block of registers (pg. 7, right column, lines 2-4; pg. 10, the "Management Frame Fields - Clause 45" table).

15. **As per claim 9**, Pannell discloses the operation is restricting the specified block of registers to read operations only (pg. 10, the "Management Frame Fields - Clause

45" table, the row entitled "Read.") *It should be noted that Opcode "11" results in a read operation.*

16. **As per claim 10**, Pannell discloses the operational code specifies control sequencing information (pg. 10, the "Management Frame Fields - Clause 45" table, the row entitled "Read Inc.").

17. **As per claim 11**, Pannell discloses the control sequencing information instructs the control engine to proceed to a next block after completing operations with the specified block (pg. 10, the "Management Frame Fields - Clause 45" table, the row entitled "Read Inc."; pg. 21, lines 4-6):

18. **As per claim 12**, Pannell discloses said location register includes a block selector indicating said block. (pg. 14, the "Device Select" signal). *Please see the citation note for claim 2 above.*

19. **As per claim 15**, Pannell discloses said control register is operable to store an operational code (pg. 14, the "the Opcode" being sent to the C45 R/W Control).

20. **As per claim 16**, Pannell discloses said control register is further operable to store a register indicator indicative of a register within said block (pg. 14, the signal sent from the "C45 R/W Control" to the "Addr Reg"). *It should be noted that the Addr Reg gets all its information from the C45 R/W Control, therefore, because the Addr Reg addresses the block of 65,536 Registers, it is inherently required the C45 R/W Control stores register addresses (i.e. register indicators) of registers within the block of 65,536 Registers.*

21. **As per claim 17**, Pannell discloses said control register is further operable to store a port indicator (pg. 14, the "Port Select" signal). *Please see the citation note for claim 4 above.*
22. **As per claim 18**, Pannell discloses said control register is operable to specify a plurality of ports (pg. 7, line 5; pg. 14, the "5 Port Address Pins" and the "Port Select" signal).
23. **As per claim 22**, Pannell discloses said location and control registers are registers specified by IEEE standard 802.3 clause 22 (pg. 25).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. **Claim 14 is rejected under 35 U.S.C. 103(a) as being obvious over Pannell in view of Nick Parlante "Pointers and Memory" (hereinafter "Parlante").**

26. Pannell discloses said location register includes a block selector. (pg. 14, the "Device Select" signal). *Please see the citation note for claim 2 above.*

Pannell does not expressly disclose said location said location register includes a pointer to a block selector.

Parlante discloses pointers (pg. 3, 1st paragraph).

Pannell and Parlante are analogous art because they are from the same field of endeavor, that being memory systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Parlante's pointers within Pannell's location register.

The motivation for doing so would have been because pointers allow different sections of code to share information easily. You can get the same effect by copying information back and forth, but pointers solve the problem better. Also, pointers enable complex "linked" data structures like linked lists and binary trees (Parlante, pg. 3, 2nd paragraph).

Therefore, it would have been obvious to combine Pannell and Parlante for the benefit of obtaining the invention as specified in claim 13.

27. **Claims 14, 19, and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Pannell in view of Tsushima et al. (U.S. Patent 5,872,989) (hereinafter "Tsushima").**

28. **As per claim 19**, Pannell discloses said control register (pg. 14, the "C45 R/W Control"; pg. 10, the "Management Frame Fields - Clause 45" table).

Pannell does not expressly disclose said control register includes a pointer to a plurality of control registers, each having an operational code.

Tsushima discloses a register control unit that includes a pointer to a plurality of control registers, each having an operational code (col. 5, lines 36-50; Fig. 3, elements 203 and 204). *It should be noted that the registers within the "register file" are analogous to the "plurality of control registers."*

Pannell and Tsushima are analogous art because they are from the same field of endeavor, that being memory systems using registers.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to apply Tsushmia's read and write pointers (known technique) to Pannell's Clause 22/Clause 45 system (a known system) ready for improvement to yield the predictable results of handling a large capacity physical register file even if the register specifying field in the instruction is small.

Therefore, it would have been obvious to combine Pannell and Tsushima for the benefit of obtaining the invention as specified in claim 19.

29. **As per claim 14**, the combination of Pannell/Tsushima discloses said location register includes a pointer to a plurality of location registers, each including a block selector (Pannell, pg. 14, the "Device Select" signal; Tsushima, col. 5, lines 36-50; Fig. 3, elements 203 and 204).

30. **As per claim 21**, the combination of Pannell/Tsushima discloses said at least one operation is selected from a group of operations consisting of pointer handling and stream looping (Tsushima, col. 6, lines 9-23; col. 7, lines 22-34; Fig. 9; Fig. 11).

31. **Claim 25 is rejected under 35 U.S.C. 103(a) as being obvious over Pannell in view of Webb et al. (U.S. Patent 5,694,587) (hereinafter "Webb").**

Pannell discloses a location register (pg. 14, the "Addr Reg").

Pannell does not expressly disclose a mask register following the location register and specifying a mask for the specified block of registers.

Webb discloses a mask register specifying a mask (col. 6, line 67 – col. 7, line 3; col. 7, lines 40-42).

Pannell and Webb are analogous art because they are from the same field of endeavor, that being computer systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Webb's mask register within Pannell's Clause 22/Clause 45 system.

The motivation for doing so would have been to allow fast access to mask (Webb, col. 7, line 41).

Therefore, it would have been obvious to combine Pannell and Webb for the benefit of obtaining the invention as specified in claim 25.

Response to Arguments

32. Applicant's arguments filed December 8, 2006 have been fully considered but they are not persuasive.

33. With respect to Applicant's argument in the third and fourth full paragraphs on page 8 and the first full paragraph on page 9 of the communication filed December 8, 2006, the Examiner respectfully disagrees. Applicant has focused on Clause 22 Register 13, submitting that only one register will respond to Register 13. However, the Examiner would like to point out that the Addr Reg and C45 R/W Control registers, not Register 13, correspond to Applicant's first and second registers respectively, as detailed in the rejection above. Both the Addr Reg and C45 R/W Control registers are

used to address (i.e. characterize) and control (i.e. specifying at least one operation) on the block of registers. The Examiner would also like to note that the features upon which Applicant relies (i.e., "allowing a plurality of registers in a larger group of registers to be accessed at any given time") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant's claims never discuss the actual process of accessing the block of registers. Accordingly, Pannell sufficiently discloses the claims 1 and 7.

34. As for Applicant's arguments with respect to the dependent claims, the arguments rely on the allegation that the independent claims are allowable and therefore for the same reasons the dependent claims are allowable. However, as addressed above, the independent claims are not allowable, thus, Applicant's arguments with respect to the dependent claims are not persuasive.

Conclusion

STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by MPEP 707.70(i):

Allowable Subject Matter

Art Unit: 2185

35. **Claims 5 and 20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims Rejected in the Application

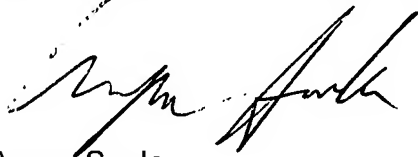
36. Per the instant office action, **claims 1-4, 6-19, 21, 22, and 25-29** have received a second action on the merits and are subject of a second action non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arpan P. Savla whose telephone number is (571) 272-1077. The examiner can normally be reached on M-F 8:30-5:00.

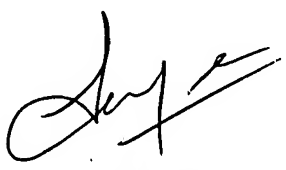
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2185

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Arpan Savla
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November 13, 2007



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